

Application No. 10/591,622
Amendment Dated January 14, 2009
Reply to Office Action Dated November 14, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (previously presented) An electric field control material including a polymer matrix in which is dispersed a so-called non-linear filler having non-linear electric resistance properties, wherein the non-linear filler includes at least 97% by weight of zinc oxide as a homogeneous powder, and less than 3% by weight of at least one metal oxide as traces.
2. (previously presented) The material according to claim 1, wherein the non-linear filler includes less than 99.8% by weight of the zinc oxide as a homogenous powder.
3. (previously presented) The material according to claim 1, wherein the grains composing the zinc oxide powder of the non-linear filler have dimensions in majority less than 50 μm .
4. (currently amended) The material according to claim 1, wherein said each metal oxide is ~~selected from the group consisting of lead oxide, cadmium oxide, iron(III) oxide, copper oxide and manganese oxide.~~

Application No. 10/591,622
Amendment Dated January 14, 2009
Reply to Office Action Dated November 14, 2008

5. (previously presented) The material according to claim 1, wherein the zinc oxide of the non-linear filler is doped with at least one non-metal element.

6. (previously presented) The material according to claim 5, wherein each non-metal element is sulphur or boron.

7. (currently amended) The material according to claim 1, further comprising wherein it includes a so-called linear filler having linear electric resistance properties.

8. (previously presented) The material according to claim 7, wherein the volume of the linear filler accounts for less than 25% of the volume of the non-linear filler.

9. (currently amended) The material according to claim 1,further comprising wherein it includes an insulating filler.

10. (previously presented) The material according to claim 9, wherein the insulating filler accounts for less than 10% by volume of said material.

11. (currently amended) The material according to claim [[1]] 7, wherein the non-linear or the combination of the non-linear and the linear filler volume substantially accounts for

Application No. 10/591,622
Amendment Dated January 14, 2009
Reply to Office Action Dated November 14, 2008

5 to 60% of the volume of said material.

12. (previously presented) The material according to claim 1, wherein the zinc oxide has a direct current resistivity which is less than $10^9 \Omega \cdot \text{m}$.

13. (previously presented) A termination for an electric cable, wherein it includes at least one electric field distributor element, including a material according to claim 1.

14. (previously presented) A connecting device for electrical cables, wherein it includes at least one electric field distributor element including a material according to claim 1.

15. (previously presented) A current limiting device, wherein it includes at least one PTC effect element, including a material according to claim 1.

16. (previously presented) A power cable, wherein it includes at least one electric field distributor element including a material according to claim 1.

17. (previously presented) Self-regulating heating cable, wherein it includes at least one PTC effect heating element including a material according to claim 1.

Application No. 10/591,622

Amendment Dated January 14, 2009

Reply to Office Action Dated November 14, 2008

18. (previously presented) The material according to claim 3, wherein the grains composing the zinc oxide powder of the non-linear filler have dimensions in majority less than 10 μm .

19. (previously presented) The material according to claim 11, wherein the non-linear or the combination of the non-linear and the linear filler volume substantially accounts for 15 to 40% of the volume of said material.

20. (previously presented) The material according to claim 12, wherein the zinc oxide has a direct current resistivity which is less than $10^8 \Omega\text{.m}$.